



# SOCIAL PUBLIC SPENDING, TAXES, REDISTRIBUTION OF INCOME, AND POVERTY IN COSTA RICA

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COMMITMENT TO EQUITY

Working Paper No. 18  
March 2014



# SOCIAL PUBLIC SPENDING, TAXES, REDISTRIBUTION OF INCOME, AND POVERTY IN COSTA RICA<sup>1,2</sup>

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## SUMMARY

Costa Rica allocates 20% of its GDP to finance a broad range of social programs. Social spending is funded primarily through indirect taxes, as well as through specific social security contributions. Using market income as a reference, only direct taxes turn out to be clearly progressive, as opposed to indirect taxes and specific contributions to the social security system, which tend to be rather neutral in relative terms. Nonetheless, most social programs are progressive; in fact, some of them are very progressive –especially cash transfers, which are highly focalized– resulting in reductions in poverty and, principally, inequality. The study highlights the enormous importance of increasing the magnitude and progressiveness of taxes to render public social spending sustainable, as well as to strengthen certain targeted programs with a high impact on the poorest.

Keywords: social spending, taxes, inequality, poverty, Costa Rica

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<sup>1</sup>This study for the case of Costa Rica was drafted within the framework of the project “Commitment to Equity” (CEQ). Its main

<sup>2</sup> The authors wish to thank the valuable comments by Nora Lustig to the draft version of this paper, and the significant support of Luis Ángel Oviedo in setting up the data base used for the study.

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## 1. INTRODUCTION

This study analyzes the progressivity or regressivity of the different items of taxes and social public spending in Costa Rica for 2010, and how they affect income distribution and poverty. The methodology used was the one defined for the project Commitment to Equity -CEQ- (Lustig, 2011, and Lustig and Higgins, 2013). Based on the results analysis, recommendations are also formulated to expand the impact of these items on redistribution and on poverty.

The article is divided into five sections. Section 1 is an overall analysis of public social spending and taxes in Costa Rica. Section 2 is a brief description of the sectors and major social programs. Section 3 includes some considerations on the building of the database used for the study. Section 4 analyzes the impact on redistribution and on poverty of such spending and taxes. Finally, the main conclusions and recommendations are presented in Section 5.

## 2. PUBLIC SPENDING AND TAXES IN COSTA RICA

Costa Rica is a small country in terms of both its population and territory (4.5 million inhabitants in approximately 51,000 km<sup>2</sup>). It is ranked as a high-middle income country, with a GDP per capita in 2010 of 8,000 current US\$ (10,630 US\$ PPP). Ever since the middle of the 20<sup>th</sup> century, the Costa Rican State has played a relevant role in the country's economy, especially in the provision of public services and the implementation of social programs.

In 2010, public social spending amounted to US\$ 1,787 per person (in current dollars), and, in total, such spending represented 20.3% of the GDP (Table 1). According to ECLAC (CEPAL, 2011), Costa Rica's per capita public social spending is ranked among the top five of the seventeen continental Latin American countries for which there is information available.

In aggregate terms, education and health are the most important sectors from the point of view of spending – each one is allocated 30% of the total social public spending (Table 1). This is followed by pensions (23.9%), while all the other sectors have a relatively minor share.

**TABLE 1. COSTA RICA: GENERAL GOVERNMENT SPENDING BY FUNCTION, 2010**

Function	Total %	Social %	% GDP
<b>Total public spending (General Government)</b>	<b>100.0</b>		<b>27.8</b>
Primary spending	92.3		25.6
Social spending	73.1	100.0	20.3
Education <sup>1</sup>	22.2	30.3	6.2
Health <sup>2</sup>	21.9	30.0	6.1
Pensions <sup>3</sup>	17.4	23.9	4.8
Promotion and Social assistance programs <sup>4</sup>	4.9	6.7	1.4
Housing and community services <sup>5</sup>	6.1	8.3	1.7
Others (recreational and cultural services)	0.6	0.9	0.2
Non-social spending	19.2		5.3

Debt service (interest)	7.7	2.1
1/ Excludes scholarships, school meal and transportation programs (social assistance).		
2/ Excludes childcare centers -CEN-CINAI- (social assistance).		
3/ Includes contributory and non-contributory pensions.		
4/ Includes scholarships, school meal and transportation programs, childcare centers -CEN-CINAI-, and other cash transfers and programs for poor households.		
5/ Includes rural aqueducts and municipal services.		
Source: Authors' calculations based on Ministerio de Hacienda.		

With respect to the GDP, public spending in education and health account for a little over 6% each, while pensions account for 4.8%. All the other sectors taken together barely account for 3.3% of the GDP.

Public social spending represents 73.1% of general government spending. Again, this highlights the enormous importance (fiscal priority) the government assigns to social matters.

On the other hand, tax revenues –including social security contributions– represented 21.2% of the GDP in 2010 –i.e., 7.2% of social security contributions, and 14% of tax collection (Table 2).

Except for the share of pensions and healthcare services covered through social security contributions, the rest of social public services are financed mostly through taxes<sup>5</sup>. Leaving aside social security contributions, the ratio of tax collection in the country is 2:1, i.e., two *colones* of indirect taxes for every *colón* collected through indirect taxes (Table 2). Among indirect taxes, those obtained from sales taxes and specific taxes on production and the consumption of goods and services are particularly important (58% of the total tax collection). This is particularly relevant from the point of view of this study, since some indirect taxes may be regressive and thus impacting the redistributive capacity of progressive social spending.

**TABLE 2. COSTA RICA: GENERAL GOVERNMENT REVENUES BY SOURCE, 2010**

Source	Total %	Specific %	% GDP
<b>Total General Government revenues</b>	<b>100.0</b>		<b>23.4</b>
Tax revenues	90.9		21.2
Direct taxes	20.6	100.0	4.8
Individual income tax	4.5	22.1	1.1
Corporate income tax	10.1	49.0	2.4
Other direct taxes	6.0	29.0	1.4
Indirect taxes	39.5		9.2
Social contributions	30.7	100.0	7.2
Social security contributions	25.2	82.1	5.9
Health	16.1	52.5	3.8
Contributory pensions	9.1	29.6	2.1
Other social contributions	5.5	17.9	1.3
Non-tax revenues	9.1		2.1

<sup>5</sup> Vocational training program (i.e. *Instituto Nacional de Aprendizaje -INA-*) and most social protection programs are also financed with taxes on salaries.

### 3. OUTLINE ON SECTORS AND MAIN SOCIAL PROGRAMS

*Education.* Costa Rica's education system is designed as a process encompassing pre-school education to higher, university education, and there is also an institution devoted to vocational training -independent from the formal education system- *Instituto Nacional de Aprendizaje (INA)*.

The country faces two major challenges in terms of education. The first is to expand the coverage of pre-school education for children aged four, and the second to increase secondary school retention and success rates. Among the actions undertaken to achieve this objective is the implementation of a conditional cash transfer program, called *Avancemos*, which will be analyzed in more detail later on.

*Health.* The country has a national healthcare system whereby the provision of public services falls on the Costa Rican Social Security System (*Caja Costarricense de Seguro Social, CCSS*). This institution also administers a contributive pension fund and implements the non-contributive pension program, as will be explained further on.

The healthcare insurance provided by the CCSS is built upon the principle of solidarity and as such is financed with contributions from workers, employers, and the state. At present, an estimated 86% of the population is insured by the CCSS (INEC, 2012), whether directly (contributors) or indirectly (relatives). Insurance of the poor population is covered by the state.

The public healthcare system currently faces a number of issues, especially relating to its financial sustainability, long waiting lists in some fields of specialty, and the need for more efficiency, among others.

*Pensions.* In Costa Rica, there are several contributive and non-contributive pension systems. The largest among contributive systems is the Invalidity, Old-age and Death System (*Régimen de Invalidez, Vejez y Muerte, RIVM*) run by the CCSS. An estimated 62% of the country's work force contributes to this system (2010). The other systems have reduced coverage. They are associated to professional associations or public institutions, usually grant pensioners high benefits, and require less years of contributing than the RIVM. They lack reserve funds, and therefore pension payments are directly charged to the public budget.

The country's process of demographic transition translates into a high growth of the senior population both at present and expected, posing serious doubts about and significant challenges on the sustainability of contributive pension systems.

With regard to non-contributive systems, the most important one is the Non-Contributive Pension System (*Régimen No Contributivo de Pensiones, RNC*), whose beneficiaries are poor senior citizens who are not entitled to a contributive pension, poor disabled citizens without any other pension, and other poor individuals (widows and orphans). Over the past few years, this system has gained special importance, both because its

coverage has expanded and because of the amount of the pension granted (at the time of research, the equivalent to US\$140 monthly).

In view of the country's fiscal difficulties facing the country since the 2009 crisis, the amount of the pension has been frozen, and the increase in the number of beneficiaries has been reduced, although the country maintains its target that all senior citizens should have a pension whether it be a contributive or non-contributive one.

*Promotion and Social assistance programs.* In Costa Rica, there are a significant number of institutions providing protection to various population groups. Among the most important ones are the National Fund of Social Development and Family Allowances (*Fondo Nacional de Desarrollo Social y Asignaciones Familiares, FODESAF*), created in 1974 as a permanent mechanism to finance the country's extreme poverty reduction programs (it is the first social investment fund in Latin America), and the Joint Institute of Social Welfare (*Instituto Mixto de Ayuda Social, IMAS*), created in 1971 to implement extreme poverty reduction programs.

In view of their great number and diversity, these programs have been grouped as follows. In the area of direct cash transfers from the public sector there are: i) scholarships granted by the National Scholarship Fund (*Fondo Nacional de Becas, FONABE*), as well as those granted by the *Avancemos* program, which is run by IMAS; ii) financial support to households provided by IMAS; and iii) financial support to households provided by other public institutions.

For in-kind transfers, the following have been considered: i) school meal programs and school transportation provided by the Ministry of Public Education; ii) childcare centers, including mainly meal services offered by CEN-CINAI program; iii) labor regulations; and iv) support to vulnerable groups, including a broad range of assistance programs to populations with disability, indigenous groups, senior citizens, and other vulnerable groups (e.g. women, children and youth at risk).

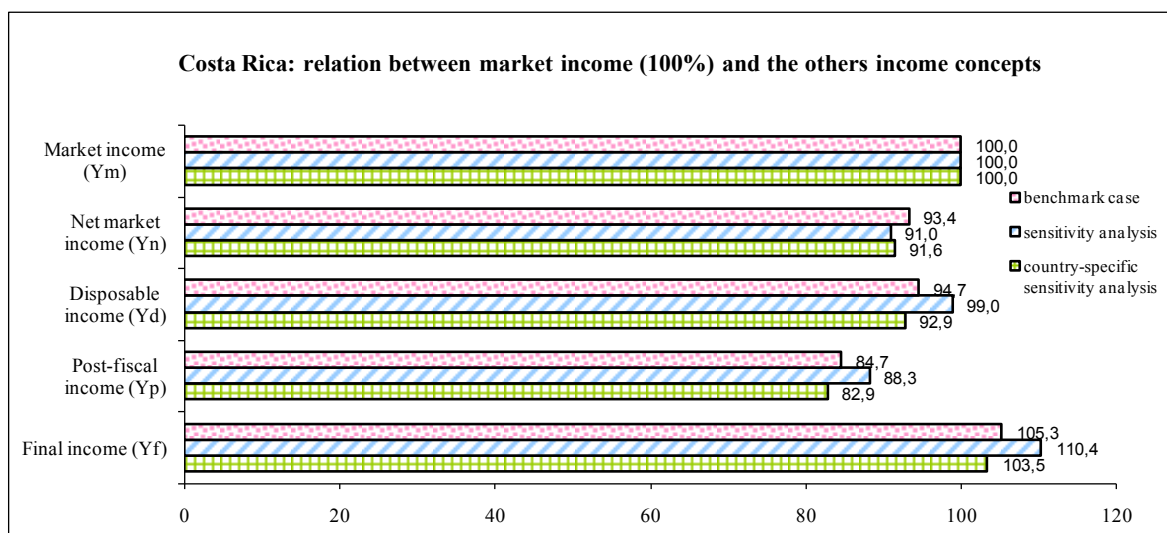
*Housing and others.* In the case of housing and other social services, the study considered the Family Housing Benefit (*Bono Familiar de Vivienda*), community services -like rural aqueducts and municipal services-, and cultural and recreational services. The most important of all is the Family Housing Benefit, which consists of a subsidy so that poor households may acquire a house, finance primarily through FODESAF.

#### 4. INCOME USED FOR THE STUDY BASED ON ALTERNATIVE MEASUREMENTS

This study's methodological proposal is based on the make-up of the income concepts defined by Lustig (2011), and Lustig and Higgins (2013). In Annex 1, there is a detailed explanation of how each of the income and expenditure items in the database used for the study were estimated, while the resulting amounts are presented in Annex 2, which also explains the alternative measurements used, including: the "benchmark case", the "sensitivity analysis" and the "country-specific sensitivity analysis" -henceforth, "country-specific definition".

When the benchmark case is considered, the net income is 93.4% of the market income (Figure 1). This means that direct taxes and social security contributions, other than pensions, reduce the market income by 6.6%. When considering the country-specific definition, in which pension contributions are also deducted, net income represents 91.6% of the market income.

**FIGURE 1**



When including direct cash transfers from the public sector, income shows an increase, so that disposable income represents 94.7% of the market income in benchmark case and 92.9% in the country-specific definition. As for the sensitivity analysis, disposable income represents 99% of the market income.

When deducting indirect taxes –which have proven to be the most important in the country– the post-tax income is lower than the market income in each and everyone of the alternative measurements.

Nevertheless, imputation of in-kind transfers for most part of the social programs significantly increases household income, reaching levels that exceed the market income in all alternative measurements.

## 5. IMPACT OF SOCIAL PUBLIC SPENDING AND TAXES ON REDISTRIBUTION AND ON POVERTY

Using a poverty line of \$1.25, the incidence of poverty among the population is very low (Table 3), and it gradually increases when considering lines of \$2.50, National Extreme Poverty, and \$4. Then it undergoes a significant increment when the national poverty line, which is 1.3 times higher than the US\$ 2.5 line and nearly 50% higher than the \$4 line, is used (Annex 3).

**TABLE 3. COSTA RICA: GINI AND HEADCOUNT INDEX FOR DIFFERENT INCOME CONCEPTS, 2010**

Income concepts	Headcount index (%) <sup>1/</sup>					Gini
	\$1.25	\$2.50	National EP	\$4	National P	

Incomeconcepts	Headcountindex (%) <sup>1/</sup>					Gini
	\$1.25	\$2.50	NationalEP	\$4	NationalP	
<b><u>Benchmark case</u></b>						
market (Ym)	2.2	5.4	6.0	10.8	19.3	0.508
net market (Yn)	2.3	5.7	6.4	11.4	21.1	0.500
disposable (Yd)	1.2	3.9	4.4	9.3	18.7	0.489
post-fiscal (Ypf)	1.7	4.2	5.0	11.1	23.6	0.486
final (Yf)						0.393
<b><u>Sensitivity analysis</u></b>						
market (Ym)	2.8	6.8	7.7	13.1	22.4	0.512
net market (Yn)	3.9	8.1	8.9	14.6	25.6	0.509
disposable (Yd)	1.2	3.9	4.5	9.6	19.4	0.488
post-fiscal (Ypf)	1.7	4.4	5.1	11.7	24.4	0.485
final (Yf)						0.390
<b><u>Country-specific definition</u></b>						
market (Ym)	2.2	5.4	6.0	10.8	19.3	0.508
net market (Yn)	2.3	5.8	6.4	11.7	22.0	0.500
disposable (Yd)	1.2	3.9	4.5	9.6	19.4	0.489
post-fiscal (Ypf)	1.7	4.4	5.1	11.7	24.4	0.486
final (Yf)						0.392

<sup>1/</sup> See annex 3.

The results obtained when considering the different definitions of income were as expected. Thus, when moving from market income to net income, there is a slight increase in the incidence of poverty (as a result of deducting direct taxes and social security contributions, thereby evidencing that the poor, when considered based on the market income, actually pay such taxes and contributions). Then, when the disposable income is added, there is a significant reduction in poverty as a result of including cash transfers from the public sector. These usually correspond to highly targeted programs, and they well make up for direct taxes and social contributions that fall on these groups.

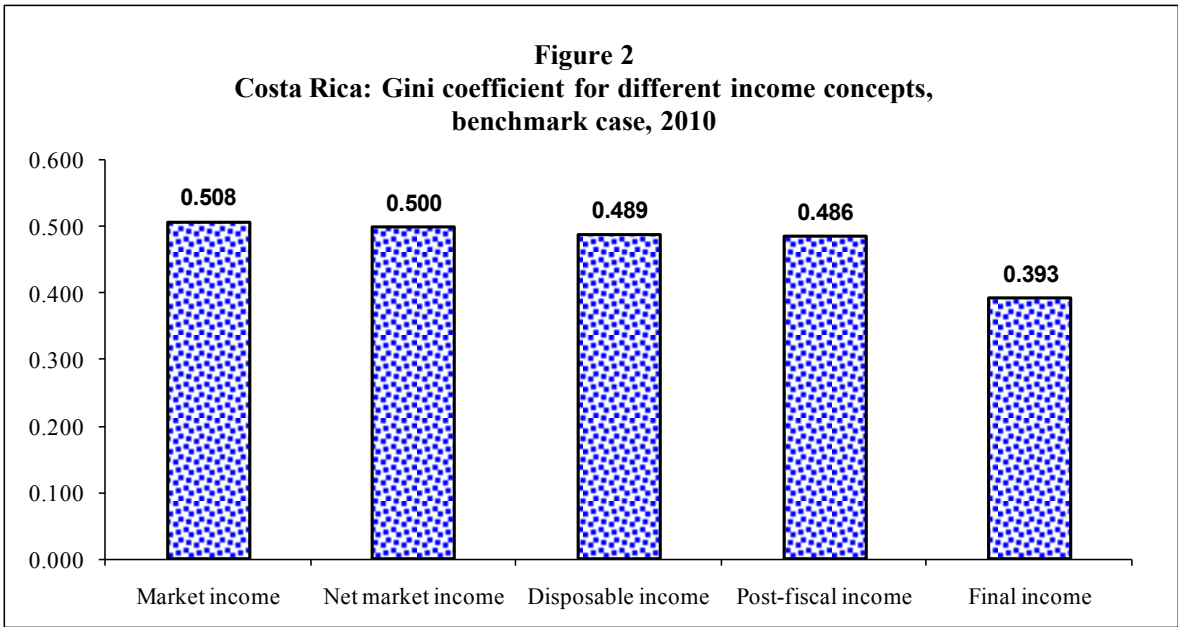
When we move on to post-tax income, deduction of indirect taxes again increases the incidence of poverty with a very particular situation: poverty with post-tax income is lower than the poverty numbers obtained with the market income using all poverty lines considered, except for the national poverty line – which is in fact the highest. The reason for this is that because the poverty line used is higher, there are more people who pay taxes and social security contributions, but they do not benefit from cash transfers from the public sector, resulting in a higher incidence of poverty. A similar situation may be found when using a \$4 poverty line in the sensitivity analyses and the country-specific definition, since of the incidence of poverty increases with the post-tax income *vis-à-vis* the market income.



Except for the cases mentioned above, government action results in reductions in the incidence of poverty when market income and post-tax income are compared (usually below 2.8 percentage points). However, it should be noted that the reduction in poverty would be significantly higher if government in-kind transfers are included (and a comparison is made between the market income and the final income).

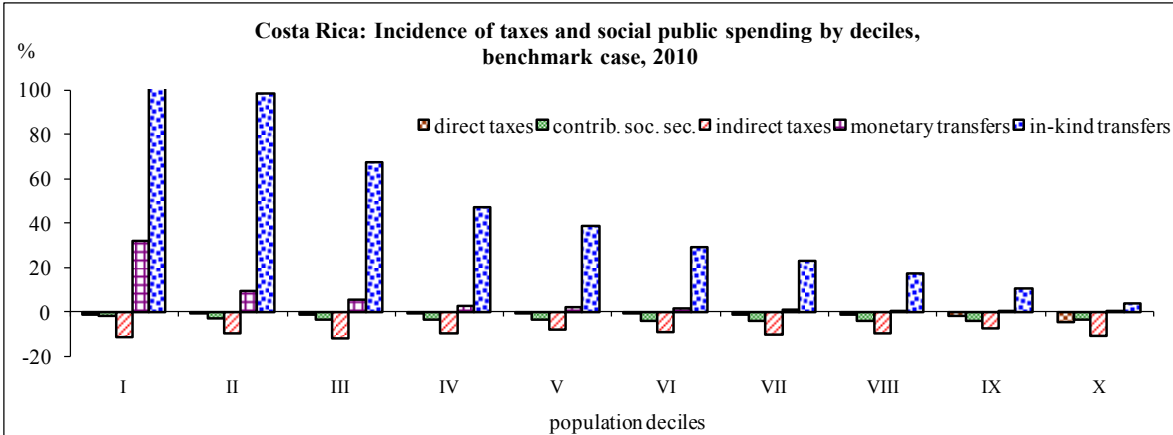
In addition to reductions in poverty mentioned so far, social public spending taken together with taxes and social security contributions has a significant, positive redistributive impact, i.e., they result in income distributions that are less unequal. As shown in Table 3 and Figure 2 (the latter referring exclusively to the benchmark case), using a Gini coefficient baseline above 0.500 with the market income, as the different definitions of income are considered the coefficient is reduced, until reaching a value below 0.400 including the final income, for a total reduction of more than 0.100 between these two incomes.

**FIGURE 2**



*Incidence of taxes and social public spending by deciles.* When percentage variations are considered *vis-à-vis* the per capita market income of the decile (Figure 3 – specific for the benchmark case), income is reduced in every decile by taxes and social security contributions while actually increasing with social public spending. However in some deciles, the increment resulting from cash transfers is zero or very small.

**FIGURE 3**



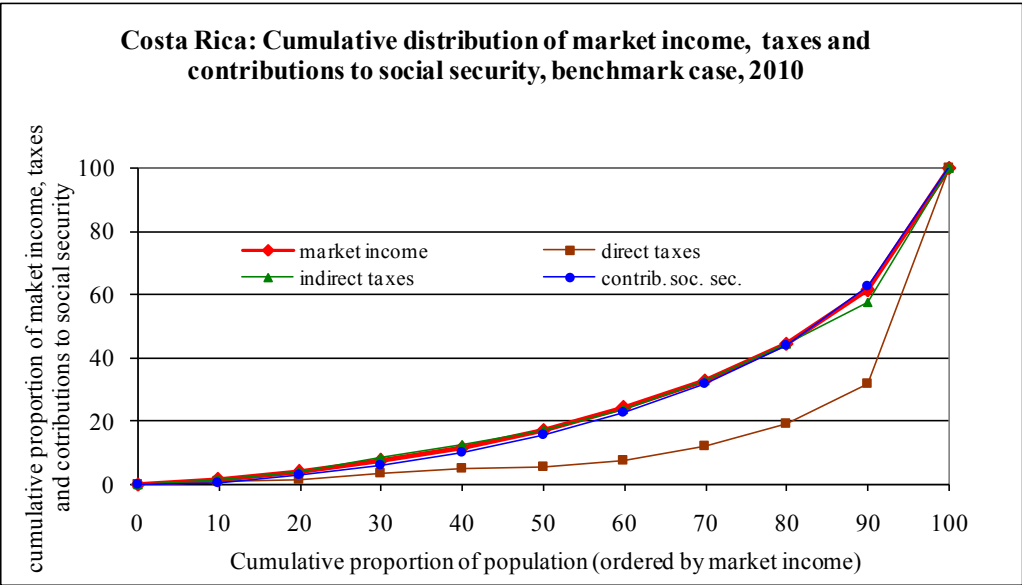
Overall, social public spending (i.e., cash transfers and in-kind transfers) has a higher incidence among population deciles with a lower per capita market income (using all three definitions). By contrast, direct and indirect taxes and workers' contributions to social security (especially in sensitivity analyses and the country-specific definition, both of them including the whole of contributions) show no clearly defined patterns, although there is a certain tendency to a higher incidence in the extremes.

Variations in disposable income, post-tax income, and final income show a very particular situation: they are high and positive for the first deciles (i.e., lower income population deciles), but they become increasingly negative as income increases among the population. Final income represents the most extreme case, such that for the first decile, increases exceed 200% *vis-a-vis* market income, but it is reduced as the highest deciles are considered, and it turns negative toward the ninth decile, thereby reflecting a drop of at least -10% with each of the different definitions (benchmark, sensitivity analysis, and country-specific definition).

It is then evident that the population whose per capita market income is higher actually pays more taxes and social security contributions than it receives in terms of social public spending, and therefore it may be assumed that the system is progressive. However, this statement should be proved by using more specific definitions and measurements.

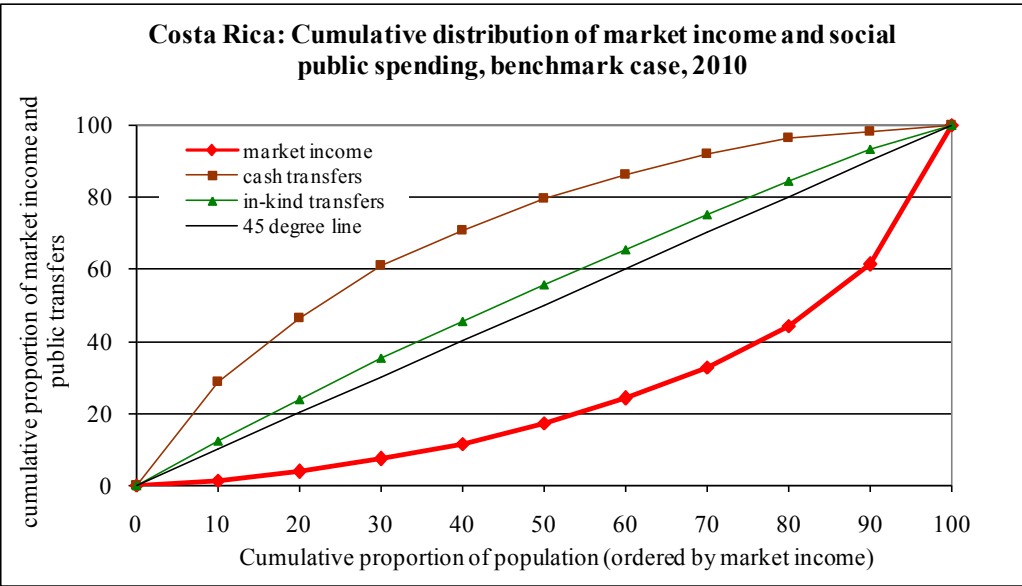
*Taxes and social public spending progressiveness.* Figure 4 shows the relative distribution of taxes and social public spending by population deciles according to their per capita market income (benchmark case). Overall, taxes and contributions rise as the market income rises as well. Nevertheless, only direct taxes are clearly progressive in relative terms.

**FIGURE 4**



In the case of social public spending, when cash transfers are considered in an aggregate manner on the one hand, and in-kind transfers are considered on the other hand, cash transfers turn out to be highly progressive (Figure 5, benchmark case). In-kind transfers viewed as a whole are also progressive, although they are less progressive than the others.

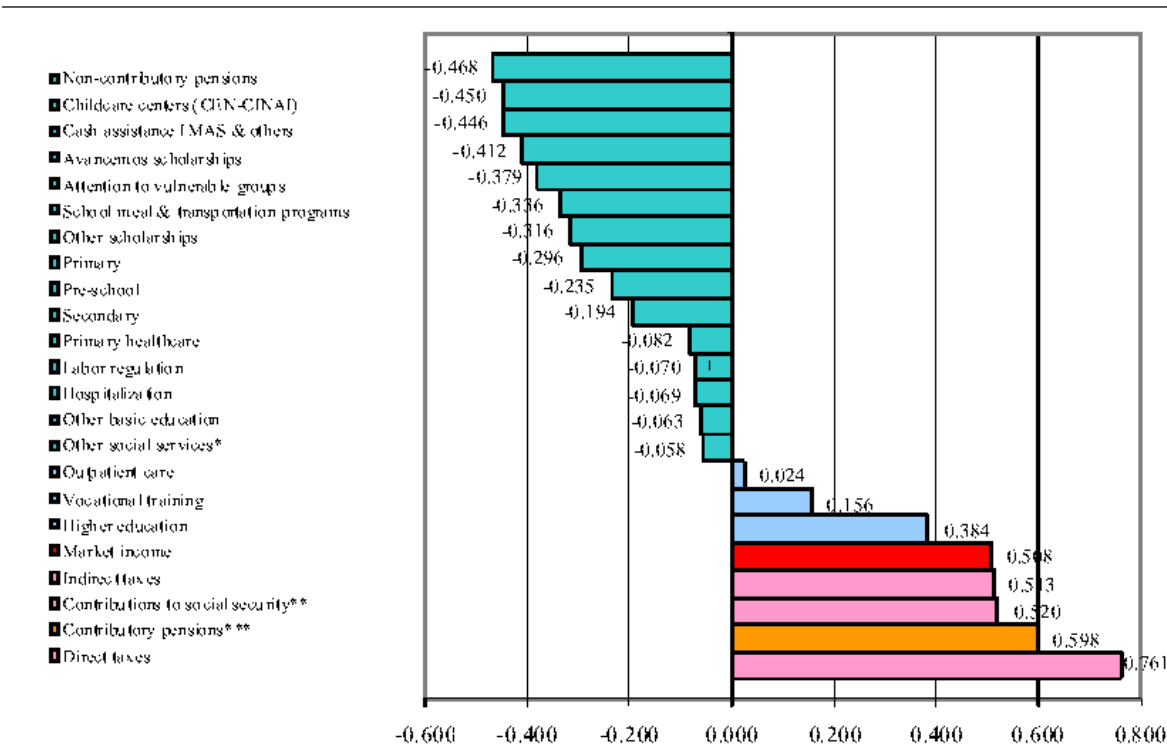
**FIGURE 5**



Aggregate social spending shows a highly concrete situation, although there are differences when programs are specifically considered. Figure 6 shows the social programs considered in the study, which are listed in decreasing order based on their quasi-Gini coefficient. This coefficient was obtained for ordering the population based on per capita market income for benchmark case.

FIGURE 6

Costa Rica: Concentration Coefficients, benchmark case, 2010



\* Estimated based on a population classification according to per capita market income.

\*\* Although these are part of the market income in the benchmark case, they are included here for illustrative purposes.

\*\*\* Corresponds to social spending measured in this study (Annex 2).

As the Figure shows, non-contributory pensions are the most progressive program, followed by other selective social programs: childcare centers (CEN-CINAI program), which provide care and meals to poor children, and financial support provided by IMAS and other institutions. In turn, this is followed by the *Avancemos* program (for secondary school students), assistance to vulnerable groups, school meal and transportation programs, and scholarships other than *Avancemos*.

Other education and healthcare programs are less progressive, while outpatient care shows a slightly positive concentration coefficient. This is followed by vocational training (i.e. INA) with a higher concentration coefficient, and in turn followed by higher education, which has the highest coefficient, i.e., is clearly a regressive program.

This figure includes contributory pensions solely for illustrative purposes. Although these pensions are part of the market income in the benchmark case considered here, they show a highly elevated concentration coefficient—even higher than the market income coefficient—evidencing a significant regressivity as well.

## 6. MAIN CONCLUSIONS AND RECOMMENDATIONS

In 2010, Costa Rica allocated 20.3% of its GDP to public social spending, thus financing a broad range of programs. In this same year, tax incomes and social security contributions accounted for 21.2% of the GDP, 14% of taxes, and 7.2% of social security contributions. Only 4.8% of the GDP corresponds to direct collection of taxes.

When the market income is considered as a reference, only direct taxes are clearly progressive, and indirect taxes and social security contributions tend to be more neutral in relative terms.

Nevertheless, most social programs are progressive, and some are highly progressive –especially cash transfers that are highly targeted. This results in reductions in poverty and inequality, both when comparing the state of disposable income *vis-à-vis* market income, and when comparing other income concepts *vis-à-vis* market income. Vocational training, higher education, and especially contributory pensions are the programs that turn out to be regressive.

Thus, government action results in reductions in the incidence of poverty when market income and post-tax income are compared, and lower poverty lines are used. However, this does not happen with higher poverty lines or with the national poverty line (which is very high with respect to the others), since the incidence of poverty actually undergoes a strong incremental increase. Methodological considerations aside, the result in terms of reduction in poverty is especially high if public in-kind transfers are included.

Social public spending as well as taxes and social security contributions have a positive redistributive impact, i.e., they result in less unequal income distributions. The Gini coefficient, which is above 0.500 when including the market income, is gradually reduced as the various definitions of income are considered, until reaching a value below 0.400 including final income, for a reduction between market income and final income of more than 0.100.

While the project Commitment to Equity -CEQ-, will achieve its main objective with the international comparison, the results obtained and analyzed at a country level confirm the enormous importance of increasing progressiveness in the country's tax system, and strengthening some targeted programs with a high impact on the poorest.

Since social public spending is similar to tax incomes –including social security contributions – its financial sustainability is relevant for the country. In the current context of a high fiscal deficit, such sustainability should be attained primarily by increasing revenues – especially progressive taxes – and to a lesser extent, through spending cuts.

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## ANNEX 1

### Costa Rica: Calculation method for the variables that make up the different income concepts

The main source of information used to create these income concepts was the 2010 National Household Survey (*Encuesta Nacional de Hogares, ENAHO 2010*), conducted by the National Institute on Statistics and Census (*Instituto Nacional de Estadística y Censos, INEC*). This survey had a nationwide coverage. It was conducted with a sample of 13,440 households, and the field work was done in July 2010. In order to have information on the variables required for the study, the project resorted to the National Survey on Income and Expenditure (*Encuesta Nacional de Ingresos y Gastos, ENIG 2004*), conducted by INEC from April 2004 through April 2005 with a sample of 5,220 households and a nationwide coverage. Information on public sector income and expenditure by the Ministry of Finance was also used, along with data on national accounts from the Central Bank of Costa Rica (*Banco Central de Costa Rica, BCCR*), as well as from other public institutions.

For market income, information was directly taken from the ENAHO. It was already adjusted for national accounts, with two adjustments being made. First, income is estimated for imputed rent based on information provided by the survey. Second, because the ENAHO collects information on tax payment and social contributions only for wage income, it is assumed that all other incomes are net. Social contributions and income taxes for contributory pensions and occupational earnings of self-employed workers, as well as capital gain taxes (rental, interest, and earnings) are calculated and expressed in gross terms. The current legislation is used for this estimate, and effective collection is adjusted. For the net market income these income taxes and social contributions are deducted, along with other taxes on net worth (housing, vehicles, etc). The latter are not captured by the ENAHO. Therefore, for this study the payment estimated by Trejos (2007) for the 2004 ENIG per market income centils is used. This payment was adjusted with the 2010 collection, and was distributed in the ENAHO per income centils based on the structure identified in the 2004 ENAHO.

Government cash transfers are added in order to obtain the disposable income. These transfers are captured by the ENAHO, and include non contributory pensions, scholarships, Avancemos conditional cash transfers, as well as other financial support provided by IMAS and by other public institutions. Administrative expenses associated to these transfers are aggregated in in-kind expenditures. The Family Housing Benefit is not included here because it is a capital transfer to acquire a durable asset (housing), which will eventually turn into a source of income (imputed rent).

The ENAHO does not capture data on consumption and therefore, indirect tax payments cannot be estimated. These taxes are imputed based on Trejos (2007) using the 2004 ENIG, per centiles, and are adjusted according to the 2010 tax collection. The sales tax is imputed separately, as well as selective or specific consumption taxes, and the flat fuel tax.

In-kind income associated to social public services such as education, healthcare, social development and assistance, housing and others, are imputed according to effective access, and are estimated at their production cost for the state. This entails disaggregating social spending per program, and refining their

magnitude. Because the ENAHO does not include any information on the use of healthcare services, the procedure consisted in identifying the beneficiaries from the various primary care programs, outpatient care, and hospitalization according to the 2004 ENIG; and determining the share they represented for every ventile of households (5% group) according to their market income. A similar share of households to the one determined for 2004 was subsequently selected at random in the ENAHO in every ventile of households, in differentiated manner by type of service, and then the expenditure was imputed to these selected households.

It should be clarified that in Costa Rica there are no indirect subsidies from the public sector (at least none that are easily identifiable or quantifiable), nor are there any co-payments, use rates, or others such as participation costs, or in-kind taxes. It should also be mentioned that payments by way of sick leaves covered by the health insurance were not differentiated as cash transfers, but were rather included in health spending (in-kind transfers).

The results obtained are presented in Annex 2.



## ANNEX 2

### Costa Rica: Make-up of income concepts in per capita terms,<sup>1/</sup> 2010

-Colones per person per month and percentages with respect to the respective market income (Ym)-

	benchmark		sensitivity analysis		country-specific sensitivity analysis	
	colones	% Ym	colones	% Ym	colones	% Ym
gross labor earnings	196,452	74.6	196,452	79.6	196,452	74.6
wages and salaries	153,797	58.4	153,797	62.3	153,797	58.4
self-employed earnings	42,655	16.2	42,655	17.3	42,655	16.2
+ gross capital income	16,144	6.1	16,144	6.5	16,144	6.1
+ gross contributory pensions	16,567	6.3	-	0.0	16,567	6.3
+ private current transfers received <sup>2/</sup>	7,757	2.9	7,757	3.1	7,757	2.9
domestic	6,060	2.3	6,060	2.5	6,060	2.3
from abroad	1,696	0.6	1,696	0.7	1,696	0.6
+ imputed rent for owner occupied housing	26,439	10.0	26,439	10.7	26,439	10.0
<b>= market income (Ym)</b>	<b>263,358</b>	<b>100.0</b>	<b>246,791</b>	<b>100.0</b>	<b>263,358</b>	<b>100.0</b>
- income tax and other direct taxes	6,954	2.6	6,954	2.8	6,954	2.6
income tax	3,984	1.5	3,984	1.6	3,984	1.5
other direct taxes <sup>3/</sup>	2,971	1.1	2,971	1.2	2,971	1.1
- workers' contributions to social security	10,405	4.0	15,145	6.1	15,145	5.8
pensions	-	0.0	4,740	1.9	4,740	1.8
healthcare and others	10,405	4.0	10,405	4.2	10,405	4.0
<b>= net market income (Yn)</b>	<b>245,999</b>	<b>93.4</b>	<b>224,692</b>	<b>91.0</b>	<b>241,259</b>	<b>91.6</b>
+ direct cash government transfers	3,331	1.3	19,571	7.9	3,331	1.3
net contributory pensions	-	0.0	16,240	6.6	-	0.0
non-contributory pensions	1,489	0.6	1,489	0.6	1,489	0.6
other government assistance	1,842	0.7	1,842	0.7	1,842	0.7
scholarships	1,510	0.6	1,510	0.6	1,510	0.6
Avancemos	834	0.3	834	0.4	834	0.3
other scholarships	676	0.3	676	0.3	676	0.3
IMAS assistance	238	0.1	238	0.1	238	0.1
finan. support other public institutions	94	0.0	94	0.0	94	0.0
<b>= disposable income (Yd)</b>	<b>249,330</b>	<b>94.7</b>	<b>244,264</b>	<b>99.0</b>	<b>244,590</b>	<b>92.9</b>
+ indirect subsidies	0	0.0	0	0.0	0	0.0
- indirect taxes	26,283	10.0	26,283	10.7	26,283	10.0
sales tax	16,757	6.4	16,757	6.8	16,757	6.4
selective, specific consumption taxes	3,691	1.4	3,691	1.5	3,691	1.4
flat fuel tax	5,835	2.2	5,835	2.4	5,835	2.2

	benchmark		sensitivity analysis		country-specific sensitivity analysis	
	colones	% Ym	colones	% Ym	colones	% Ym
<b>= post-fiscal income (Yp)</b>	<b>223,047</b>	<b>84.7</b>	<b>217,980</b>	<b>88.3</b>	<b>218,307</b>	<b>82.9</b>
+ in-kind public transfers	54,390	20.7	54,390	22.0	54,390	20.7
education	23,027	8.7	23,027	9.3	23,027	8.7
pre-school	1,572	0.6	1,572	0.6	1,572	0.6
primary	7,378	2.8	7,378	3.0	7,378	2.8
secondary	5,659	2.1	5,659	2.3	5,659	2.1
other basic education systems	2,127	0.8	2,127	0.9	2,127	0.8
higher education	5,124	1.9	5,124	2.1	5,124	1.9
vocational training	1,166	0.4	1,166	0.5	1,166	0.4
health	21,185	8.0	21,185	8.6	21,185	8.0
primary care	5,434	2.1	5,434	2.2	5,434	2.1
outpatient care	4,408	1.7	4,408	1.8	4,408	1.7
hospitalization	11,342	4.3	11,342	4.6	11,342	4.3
promotion and social assistance	3,889	1.5	3,889	1.6	3,889	1.5
school food & transportation programs	1,096	0.4	1,096	0.4	1,096	0.4
childcare centers (CEN-CINAI)	441	0.2	441	0.2	441	0.2
labor regulation	278	0.1	278	0.1	278	0.1
support to vulnerable groups	2,073	0.8	2,073	0.8	2,073	0.8
housing and other social services <sup>4/</sup>	6,289	2.4	6,289	2.5	6,289	2.4
- co-payments, use rates	0	0.0	0	0.0	0	0.0
<b>= final income (Yf)</b>	<b>277,436</b>	<b>105.3</b>	<b>272,370</b>	<b>110.4</b>	<b>272,696</b>	<b>103.5</b>

<sup>1/</sup> The total of persons in that year was 4,551,553, for 1,289,716 households. The average exchange rate for that year was 525.83 *colones* per US\$.

<sup>2/</sup> Includes remittances, alimony payments, pensions from abroad, support from relatives, scholarships, and other assistance from the private sector.

<sup>3/</sup> Includes vehicle circulation, real estate, and others.

<sup>4/</sup> Includes Family Housing Benefit, rural aqueducts, municipal services, and recreational and cultural services.

The **benchmark** considers gross contributory pensions as part of the market income. To obtain net income, social security contributions that are not for pensions (i.e., health and others) are deducted, but contributions for pensions are not deducted.

The **sensitivity analysis** consists in excluding gross contributory pensions from the market income, and considering them, in net terms, as a cash government transfer. To obtain the net income, all social security contributions are deducted.

For the **country-specific sensitivity analysis** (or **country-specific definition**), gross contributory pensions are considered as part of the market income. To obtain the net income, all social security contributions (pensions, healthcare, and others) are deducted.

## ANNEX 3

### Costa Rica: poverty lines used

Both international and national poverty lines were used in this study. International poverty lines are \$1.25 PPP, \$2.50 PPP and \$4 PPP, all of them in 2005 US dollars. Because the survey used for Costa Rica's case was the one for 2010, these poverty lines were converted into *colones* of 2005 using the PPP conversion factor for private consumption (local currency for international US\$), which was 279 for 2005 (World Bank: World Development Indicators), as well as the values updated with a variation in prices measured according to the Consumer Price Index, which amounted to 57.1% from July 2005 to July 2010<sup>6</sup>. As a result, the poverty lines in *colones* are as follows (*colones* per person per month):

\$1.25 PPP de 2005 = 16,669 *colones*

\$2.50 PPP de 2005 = 33,338 *colones*

\$4 PPP de 2005 = 53,3410 *colones*

National poverty lines were estimated by the National Institute of Statistics and Census (Instituto Nacional de Estadística y Censos, INEC, 2011), and were used to estimate poverty based on the 2010 Household Survey. It should be noted that in INEC estimates poverty lines are differentiated for urban and rural areas as follows (*colones* per person per month):

National extreme poverty = 40,391 *colones* in urban areas, and 33,455 in rural areas

National poverty = 88,225 *colones* in urban areas, and 67,750 in rural areas

When applying the above procedure inversely, national poverty lines are as follows (2005 PPP \$ per person per month):

National extreme poverty = \$3 in urban areas, and \$2.5 in rural areas

National poverty = \$6.6 in urban areas, and \$5.1 in rural areas

The poverty estimates conducted for this study based on national poverty lines, consider the urban-rural differentiation. However, solely for the purpose of simplifying how numbers are presented, the national (simple) average is used as a reference:

National extreme poverty = 2005 \$2.77 PPP

National poverty = 2005 \$5.85 PPP

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<sup>6</sup>The month of July is used because it corresponds to the month of reference for household surveys.

## CEQ PUBLICATIONS<sup>7</sup>

### ARTICLES

Lustig Nora, Carola Pessino and John Scott. 2014. Editors. “Fiscal Policy, Poverty and Redistribution in Latin America.” Special Issue of *Public Finance Review*

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John Scott

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Miguel Jaramillo Baanante

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Led by Nora Lustig (Tulane University), the Commitment to Equity (CEQ) project is designed to analyze the impact of taxes and social spending on inequality and poverty, and to provide a roadmap for governments, multilateral institutions, and nongovernmental organizations in their efforts to build more equitable societies. CEQ/Latin America is a joint project of the Inter-American Dialogue (IAD) and Tulane University's Center for Inter-American Policy and Research (CIPR) and Department of Economics. The project has received financial support from the Canadian International Development Agency (CIDA), the Development Bank of Latin America (CAF), the General Electric Foundation, the Inter-American Development Bank (IADB), the International Fund for Agricultural Development (IFAD), the Norwegian Ministry of Foreign Affairs, the United Nations Development Programme's Regional Bureau for Latin America and the Caribbean (UNDP/RBLAC), and the World Bank. <http://commitmenttoequity.org>



**COMMITMENT  
TO EQUITY**

The CEQ logo is a stylized graphical representation of a Lorenz curve for a fairly unequal distribution of income (the bottom part of the C, below the diagonal) and a concentration curve for a very progressive transfer (the top part of the C).